

WHAT IS CLAIMED IS:

1. - 21. (canceled)

22. (currently amended) A method for determining defined states or modifications in the mucous membrane of the uterus or in the epithelium of other organs, the method comprising the step of:

determining specifically a concentration of at least one of human endometrial chorionic gonadotropin (e $\beta$ hCG/ehCG) and non-trophoblastic hCG (hCG type I,  $\beta$ 6,  $\beta$ 7) in a sample of at least one of body liquid, tissue, and cells;

wherein expression of endometrial chorionic gonadotropin (e $\beta$ hCG/ehCG) signals receptiveness of the endometrium for a fertilized egg or signals an undisturbed pregnancy;

wherein no expression of endometrial chorionic gonadotropin (e $\beta$ hCG/ehCG) in non pregnant women signals nonreceptiveness of the endometrium for a fertilized egg and protection against pregnancy;

wherein a reduction of expression of endometrial chorionic gonadotropin (e $\beta$ hCG/ehCG) in a pregnant woman in comparison to a level of expression of endometrial chorionic gonadotropin (e $\beta$ hCG/ehCG) in a pregnant woman with a healthy pregnancy signals a dysfunction of the endometrium or decidua, a pregnancy disorder due to a dysfunction of the decidua and a risk of miscarriage, intra-uterine growth retardation, preeclampsia, a premature birth or, at the end of pregnancy, the onset of labor.

23. (currently amended) The method according to claim 22, further comprising the step of additionally determining a concentration of trophoblastic hCG (hCG type II, t $\beta$ hCG) or total  $\beta$ hCG or total hCG.

24. (previously presented) The method according to claim 22, wherein in the step of determining the concentration of endometrial hCG (e $\beta$ hCG/ehCG) at least one antibody that recognizes specifically endometrial hCG (e $\beta$ hCG/ehCG) and does not recognize trophoblastic hCG (hCG type II, t $\beta$ hCG) is used.

25. (previously presented) The method according to claim 24, wherein the at least one antibody recognizes specifically a peptide selected from peptide sequences according to SEQ ID No. 1 or 3 or partial sequences thereof.

26. (currently amended) The method according to claim 22 [[23]], wherein the concentration of endometrial hCG and optionally trophoblastic hCG or total  $\beta$ hCG or total hCG is determined in a sample selected from secretions, perfusion liquid, cells or tissue, wherein the sample originates from peripheral blood, serum, lochia, menstrual blood, amniotic fluid, urine, saliva, eye chamber fluid, the urogenital tract, the gastrointestinal tract, the respiratory tract or the central nervous system.

27. (previously presented) The method according to claim 22 for determining receptivity of the mucous membrane of the uterus for a fertilized egg in prospective and retrospective embryo implantation diagnostics, comprising the step of taking a sample in the early luteal phase in the form of tissue from the endometrium or from the cervical mucous membrane, a secretion of the vagina, the cervix, or the uterus, or serum, plasma, or peripheral blood and determining in the sample the non-trophoblastic or endometrial  $\beta$ hCG concentration.

28. (previously presented) A method for determining defined states or modifications in the mucous membrane of the uterus or in

the epithelium of other organs, the method comprising the step of determining a concentration of total hCG or of  $\beta$  subunits thereof in a sample of menstrual blood.

29. (withdrawn) An antibody recognizing specifically endometrial hCG (e $\beta$ hCG/ehCG) and not trophoblastic hCG(hCG type II, t $\beta$ hCG) and recognizing specifically a peptide selected from the peptide sequences according to SEQ ID No. 1 or No. 3 or partial sequences thereof.

30. (withdrawn) An antibody recognizing specifically the trophoblastic human chorionic gonadotropin (hCG type II/t $\beta$ hCG) and not endometrial human chorionic gonadotropin (e  $\beta$ hCG/ehCG) and recognizing specifically a peptide selected from the peptide sequences according to SEQ ID No. 2 or No. 4 or partial sequences thereof.

31. (withdrawn) A test kit for determining defined states or modifications in the mucous membrane of the uterus or in the epithelium of other organs comprising at least one antibody according to claim 29 or 30 and further antibodies and standards.

32. (withdrawn - currently amended) An ~~andometrial~~ endometrial  $\beta$  subunit of human chorionic gonadotropin (e $\beta$ hCG) having an amino acid sequence according to SEQ ID No. 10.

33. (withdrawn) A gene sequence  $\beta$ 6e coding for the endometrial  $\beta$  subunit of human chorionic gonadotropin (e $\beta$ hCG) according to SEQ ID No. 7.

34. (withdrawn) A peptide selected from the amino acid sequences according to a SEQ ID No. 1, 3, 12, and 14.

35. (new) A method according to claim 23 wherein in the step of determining a concentration of trophoblastic hCG (hCG type II, t $\beta$ hCG) at least one antibody that recognizes specifically trophoblastic hCG (hCG type II, t $\beta$ hCG) and does not recognize endometrial hCG (e $\beta$ hCG/ehCG) is used.